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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,330	07/10/2003	David Richard Amick	A01396	2827

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EXAMINER	
SASTRI, SATYA B	
ART UNIT	**PAPER NUMBER**
1713	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,330	AMICK ET AL.	
	Examiner	Art Unit	
	Satya B. Sastri	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to amendment filed on September 23, 2005. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 23, 2005 has been entered. ***Claims 1-4, 6-9*** are now pending in the application.

2. All previous rejections are withdrawn and new rejections are introduced in this action.

Previously Cited Statutes

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. ***Claims 1-4*** are rejected under 35 U.S.C. 102(b) as anticipated by Ruffner et al. (US 4,600,761).

Ruffner et al. disclose acrylic emulsion copolymers prepared by polymerizing (A) surfactant monomer (B) an unsaturated carboxylic acid monomer, (C) a nonionic monomer and optionally (D) a crosslinking monomer (abstract). (A) may be present in amounts of about 1 to

25% by wt., (B) may be present in amounts of 5 to 70% by wt., (C) may be present in amounts of 10 to 90% by wt. and (D) may range up to 1% by wt. (column 3, lines 55-67 and column 4, lines 1-63). The polymerization reaction is carried out by thermal initiators such as ammonium persulfate or potassium persulfate or at lower temperatures using redox initiators such as t-butyl hydroperoxide/bisulfite, or hydrogen peroxide with a ferrous compound (column 8, lines 30-43).

Where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to applicants to establish an unobvious difference, even if the production processes are different. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983). Furthermore, the patentability of a product claim rests on the product formed and not on the method by which it is produced. In re Thorpe, 227, USPQ 984 (Fed. Cir. 1985).

5. ***Claims 1-4*** are rejected under 35 U.S.C. 102(b) as anticipated by Kazuhiro (JP 09-143444, Machine translation).

Kazuhiro discloses acrylic emulsion by polymerizing 0.5-5 parts of a reactive non-ionic emulsifier per 100 parts of mixed monomer of 90-98 wt. % of a methacrylate monomer and 2-10% % wt.% of acid-containing monomer or an amide-containing monomer or a hydroxyl-containing monomer (abstract). The polymerization initiator disclosed include water-soluble azo compounds, ammonium persulfate, hydrogen peroxide etc. with appropriate reducing agents (page 3, paragraph 0019).

Where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to applicants to establish an unobvious difference, even if the production processes are different. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983). Furthermore,

the patentability of a product claim rests on the product formed and not on the method by which it is produced. In re Thorpe, 227, USPQ 984 (Fed. Cir. 1985).

6. ***Claims 1-4*** are rejected under 35 U.S.C. 102(b) as anticipated by Sonnabend (Us 4,384,096).

Prior art to Sonnabend discloses aqueous emulsion polymers prepared from 15-60% by wt. of unsaturated carboxylic acid monomer with 15-80% of non-ionic monomer and about 1-30% by wt. of nonionic vinyl surfactant esters (abstract). Emulsion polymerization may include ammonium persulfate, potassium persulfate, sodium persulfate, peroxides such as hydrogen peroxide, organic hydroperoxides such as t-butyl hydroperoxide, organic peroxides such as benzoyl peroxide, acetyl peroxide and lauroyl peroxide, peracetic acid, perbenzoic acid as well as azobisisobutyronitrile (column 6, lines 6-25).

Where product by process claims are rejected over a prior art product that appears to be the same, the burden is shifted to applicants to establish an unobvious difference, even if the production processes are different. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983). Furthermore, the patentability of a product claim rests on the product formed and not on the method by which it is produced. In re Thorpe, 227, USPQ 984 (Fed. Cir. 1985).

7. ***Claims 6-9*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruffner et al. (US 4,600,761) in view of Dyer (US 4,672,005) or Kazuhiro (JP 09-143444, Machine translation) in view of Dyer (US 4,672,005) or Sonnabend (Us 4,384,096) in view of Dyer (US 4,672,005).

Prior art to Ruffner et al., Kazuhiro et al. and Sonnabend et al. are presented above in paragraphs 4-6, respectively, and are incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the emulsion polymerization process with organic hydroperoxides, peroxides or peresters wherein the alkyl group has at least 5 carbon atoms.

Prior art to Dyer discloses a variety of polymerization initiators that may be utilized in free radical polymerization reactions. Disclosed initiators include organic peroxy compounds such as dibutyl peroxide and diamyl peroxide, tert. butyl hydroperoxide and tert. amyl hydroperoxide, ammonium persulfate, potassium peruslfate etc. (column lines 4-25). Given the functional equivalence of various radical initiators, it would have been obvious to one of ordinary skill in the art at the time invention was made to include any of the intitiators including the instantly claimed initiators in the emulsion polymerization reactions disclosed by Ruffner et al., Kazuhiro et al. or Sonnabend et al. and thereby obtain the instant invention.

8. ***Claims 1-4, 6-9*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 6,545,084 B2) or Slone et al. (US 6,403,703 B1).

Prior art to Brown et al. discloses an aqueous composition formed from free radical polymerization of monomers comprising 0-7.5% by wt. of ethylenically unsaturated acid monomers in the presence of t-alkyl free radical initiators wherein the t-alkyl group includes at least 5 carbon atoms in amounts of 0.01 to 1.0% by wt. (abstract). The addition of such initiators may be advantageously such that 0.01 to 1% of the initiator is added after 90-99.7% of the monomer by wt. has been converted into polymer (column 4, lines 25-67, column 5, lines 1-16).

The polymerization may be conducted in the presence of anionic and/or nonionic surfactant including ethylenically unsaturated surfactant monomers (column 3, lines 43-60).

Slone et al. disclose aqueous compositions comprising 0.5-5% by wt. of ethylenically unsaturated acid monomers in the presence of t-alkyl free radical initiators wherein the t-alkyl group includes at least 5 carbon atoms in amounts of 0.01 to 1.0% by wt. (abstract). The addition of such initiators may be advantageously such that 0.01 to 1% of the initiator is added after 90-99.7% of the monomer by wt. has been converted into polymer (column 4, lines 2-15. The polymerization may be conducted in the presence of anionic and/or nonionic surfactant including ethylenically unsaturated surfactant monomers (column 3, lines 30-47).

The difference between the instant inventions and the prior art is that the prior art does not teach polymerization compositions comprising acid monomers in excess of 7.5% by wt.

Even though the prior art does not teach polymerization compositions comprising higher amounts of acid monomers, it is the examiner's position that such compositions are obvious modifications of the prior art. Such modifications would be motivated because the higher ionic (acid) group content in the copolymer improves the thickening capability of the copolymer in aqueous suspensions and latexes when neutralized. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include higher concentrations of ionic monomers in the compositions of Brown et al. or Slone et al. and thereby obtain the instant invention.

9. ***Claims 6-9*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruffner et al. (US 4,600,761) in view of Brown et al. (US 6,545,084 B2) or Kazuhiro (JP 09-143444, Machine

translation) in view of Brown et al. (US 6,545,084 B2) or Sonnabend (Us 4,384,096) in view of Brown et al. (US 6,545,084 B2).

Prior art to Ruffner et al., Kazuhiro et al. and Sonnabend et al. are presented above in paragraphs 4-6, respectively, and are incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not disclose the emulsion polymerization process with organic hydroperoxides, peroxides or peresters wherein the alkyl group has at least 5 carbon atoms.

Prior art to Brown et al. discloses an aqueous composition formed from free radical polymerization of monomers comprising 0-7.5% by wt. of ethylenically unsaturated acid monomers in the presence of t-alkyl free radical initiators wherein the t-alkyl group includes at least 5 carbon atoms in amounts of 0.01 to 1.0% by wt. (abstract). The addition of such initiators may be advantageously such that 0.01 to 1% of the initiator is added after 90-99.7% of the monomer by wt. has been converted into polymer (column 4, lines 25-67, column 5, lines 1-16). The polymerization may be conducted in the presence of anionic and/or nonionic surfactant including ethylenically unsaturated surfactant monomers (column 3, lines 43-60). The disclosure teaches that use of certain levels of organic hydroperoxides, peroxides or peresters wherein the alkyl group has at least 5 carbon atoms during the polymerization or even only in the last stages to provide improved coating properties (column 1, lines 30-59). Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to include organic hydroperoxides, peroxides or peresters wherein the alkyl group has at least 5 carbon atoms during the polymerization or even only in the last stages in the emulsion polymerization

reactions disclosed by Ruffner et al., Kazuhiro et al. or Sonnabend et al. and thereby obtain the instant invention.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached at (571) 272 1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satya sastri
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November 30, 2005

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